As part of the legislation passed last session to create the new Department of Health and Human Services (DHHS), the Bureau of Health was renamed the Maine Center for Disease Control and Prevention (Maine CDC). The federal Centers for Disease Control and Prevention will be referenced as "CDC".

The purpose of the Epi-Gram is to distribute timely and science-based information to guide Maine's healthcare professionals in issues of public health and infectious disease importance and to promote statewide infectious disease surveillance.

Dora Anne Mills, MD, MPH:
Maine Public Health Director and State Health Officer
Director, Maine CDC

Sally-Lou Patterson:
Director, Infectious Disease Division

Kathleen F. Gensheimer, MD, MPH:
State Epidemiologist and Editor

February 2006 Issue Contents

2005 Epidemiology Recognition Awards

The Division of Infectious Disease, Maine Center for Disease Control and Prevention has the pleasure of announcing the recipients of the 14th Annual Public Health epidemiology Recognition Awards. The recognition awards are presented to members of the health care community who work above and beyond the call of duty to promote public health surveillance within their communities throughout the year. The awards were given during the Division of Infectious Disease's Annual Infectious Disease Symposium, "Emerging Infectious Diseases in Maine: The Public Health Response," held in Augusta on November 14, 2005.

The recipients of this year's awards were Tammy Beaulier-Fuller, RN, ICP, Aroostook Medical Center; Patricia Hamilton, FNP, Director Public Health Nursing, Bangor City Health and Welfare Department and Paul Gauvreau,

Assistant Attorney General, Office of the Attorney General. The award consists of a certificate with the image of the “Broad Street Pump,” implicated as the source of infection by John Snow in his classic investigation of an 1854 cholera epidemic in London. Almost one and one-half centuries later, it remains clear that by striving to improve, promote and maintain an active disease surveillance system, the health of Maine citizens will be better protected.

The staff of the Division of Infectious Disease congratulates the recipients of this year’s award for their exemplary efforts in promoting and protecting the public health of Maine’s citizens.

Kathleen F. Gensheimer, MD, MPH, Division of Infectious Disease;
Tammy Beaulier-Fuller, RN, Aroostook Medical Center;
Patricia Hamilton, FNP, Bangor City Health and Welfare Department and
Sally Lou Patterson, Infectious Disese Division
(not pictured: Paul Gauvreau)

Evaluating Maine's Influenza Surveillance System Sentinel Provider Network, 2004-2005

Influenza, along with pneumonia, is the seventh leading cause of death in the United States. During 1990 to 1999, influenza was responsible for 36,000 deaths per year nationwide. In Maine, influenza and pneumonia are ranked 8th among the leading causes of death, causing approximately 1,100 deaths annually from 1994 to 2003. Influenza-like-illness (ILI) is characterized as illness that presents with the typical signs and symptoms of influenza, and is defined as fever greater than or equal to 101˚F (38.7 ˚ C) with a cough and/or sore throat, in the absence of a known cause other than influenza.

The purpose of influenza surveillance in Maine is to inform influenza prevention and control policy. The Maine Center for Disease Control and Prevention (Maine CDC) uses the data collected to track the onset of influenza and influenza-like illness in Maine, determine trends in influenza subtype circulation, and refine recommendations to limit the transmission of influenza, including the use of antiviral medications and other infection control measures.

The 2004-05 influenza surveillance system in Maine was comprised of seven components, one of which was the Sentinel Provider Network (SPN). The SPN monitored ILI based on outpatient office visits and included 21 providers who reported to the federal Centers for Disease Control and Prevention (CDC) on a weekly basis. In October 2005, Maine CDC conducted an evaluation of the SPN as a component of Maine’s Influenza Surveillance System using CDC’s guidelines for evaluating public health surveillance systems. The purpose of the evaluation was to asses how well the SPN operates to meet its purpose and objectives.

Influenza surveillance was conducted in 2004-05 over a 33-week period from October 4, 2004 to May 21, 2005. Providers that participated in the SPN were responsible for calculating the number of total patients seen in their offices and the number of patients with ILI for each week by 4 designated age groups. These data were reported via phone, fax, or the Internet to CDC, where it was aggregated with other states' data and posted on the CDC influenza web page (www.cdc.gov/flu) on a weekly basis. The Maine CDC disseminated SPN data to public health partners and the public through electronic messaging and the Maine CDC influenza website (http://www.maine.gov/dhhs/boh/Influenza_2005-2006.htm).

Information was collected through a review of 2004-2005 SPN reporting records, national SPN reporting statistics, and public health literature. System attributes evaluated included simplicity, flexibility, acceptability, sensitivity, predictive value positive, representativeness, timeliness, and stability.

During the 2004-2005 season, a total of 452 reports were received from Maine sentinel providers; 285 (63%) were submitted by the Internet and 167 (37%) were submitted by fax. Overall, Maine sentinel providers reported 130,128 patient-visits; 1,192 (0.9%) of whom were seen for ILI.

- **Simplicity:** The SPN system is relatively simple when compared with other surveillance systems. Two pieces of information are collected from each participant: the number of total patients seen and the number of ILI cases for the week stratified by age group. Maine participants rely upon manual or a combination of manual and electronic processes for data extraction.

- **Flexibility:** Flexibility was difficult to assess, since the reporting mechanism did not change during 2004-2005. However, eight of the 21 providers that participated last year were replaced for the 2005-2006 season due to low reporting rates.

- **Acceptability:** Acceptability was measured by looking at participation rates. CDC's reporting goal for small states is to have a minimum of 10 regularly reporting providers for the season. A regular reporter is a provider who has reported for at least half of the designated weeks during the influenza season. There were 21 providers that participated during the 2004-2005 season; 13 (62%) of which submitted at least 50% of the requested reports.

- **Sensitivity:** Based on a review of literature, reported sensitivities of clinical definitions for ILI in studies primarily among adults with fever and cough have ranged from 63% to 78% when compared with viral culture (MMWR July 29, 2005/Vol.54/No.RR-8).

- **Predictive Value Positive (PVP):** A study among older non-hospitalized patients determined that symptoms of fever and cough with acute onset had a PVP of 30% for influenza. (MMWR July 29, 2005/Vol.54/No.RR-8).

- **Representativeness:** Sentinel providers from 15 of 16 counties and the three major cities in the state participated during the 2004-05 season, which would indicate good geographical representation.

- **Timeliness:** In order for reporting to be considered on time, providers must submit reports by noon on the Tuesday following the end of the reporting week. Timeliness was fair, with 55% of all reports submitted by the deadline. CDC did not assess this rate; therefore no comparison was made to sentinel providers from other states.

- **Stability:** The system is stable since it has been in place for several years and no major changes have occurred. Also, the majority of other states incorporate the sentinel provider network into their influenza surveillance activities; some are supported by federal funding.

There are several limitations to this study. First because of limited resources, we were not able perform data collection activities to assess the sensitivity and predictive-value positive of Maine's SPN more systematically or to ascertain participants' assessment of the surveillance system's simplicity, flexibility or acceptability. Second, we only assessed the SPN as a whole and did not look at how well the surveillance system tracks influenza-like illness in sub-populations, like pediatric and geriatric age groups. Finally, this study only considered activities for one season, though this surveillance activity has been conducted for many years in Maine.
Maine's SPN tracks influenza-like-illness in the state and is useful in monitoring the onset and magnitude of influenza-like-illness and in assisting in federal surveillance activities. Participants are engaged and achieve

regular reporting rates that exceed national standards. Recruiting and retaining sentinel providers are among the challenges that exist in the system, as is obtaining complete and timely data on a weekly basis. We recognize that this requires significant time commitment (i.e. 30 minutes/week) on the part of the participating provider offices. Maine is also challenged by the lack of dedicated funding for this activity. However, monitoring influenza-like illness in the community setting is of great importance in seasonal influenza surveillance and viewed as essential for pandemic influenza preparedness. As such, year-round surveillance will be expanded to include the SPN this year as work to better understand ILI outside of seasonal activity.
For more information on Maine's influenza surveillance activities, go to http://www.maine.gov/dhhs/boh/Influenza_2005-2006.htm or contact Anne Redmond Sites, Influenza Surveillance Coordinator at 207-287-7273 or anne.sites@maine.gov
Consider becoming a sentinel provider and participating in this important surveillance activity – we want to hear from you!
Acknowledgements: With thanks to the 2004-05 Sentinel Provider Network participants – Max Barus, MD; Ronald Blum, MD; Phil Carter, MD; Kerry Crowley, MD; David Hall, MD; Brad Hewett, MD; Julie Hoogeveen, PA-C; Frank Kellershack, MD; Scott Kemmerer, MD; Edie Konesni, PA-C; Frank Lavoie, MD; Larry Losey, MD; Peter Millard, MD; Richmond Health Center; Venugopal Saddi, MD; Saint Andrew's Hospital Family Care Center; Swift River Health Center; Homa Varghai, MD; Barbara Vereault, MD

Contributed by Araceli Rey and Anne Redmond Sites

Diagnosing Legionnaires Disease

(Reprint) Benin AL, Benson RF, Besser RE. Trends in Legionnaires Disease: Declining Mortality and New Patterns of Diagnosis. CID 2002:35;1039-1046.

Legionella was first recognized as a pathogen in 1977 and has been monitored nationally through passive surveillance since 1980. In Maine, a total of 25 cases of legionnaires disease (LD) were reported from 2000 to 2005 (median 4; range 1-8). The majority of LD cases occurred in persons aged 40-59 years and during the summer and fall seasons (Table 1). Penobscot and Somerset counties report the highest case-rates (Table 2). Persons at increased risk for LD include elderly individuals, smokers, and people with underlying respiratory or immunocompromising conditions.
Maine CDC encourages health care providers to consider LD in the differential diagnosis of adult patients with community-acquired pneumonia and perform diagnostic studies consistent with guidelines published by the Infectious Diseases Society of America in 2000, which includes:

- Urine antigen testing;
- Direct fluorescent antibody (DFA) testing of respiratory secretions, lung tissue or pleural fluid;
- Culture of respiratory secretions, lung tissue, pleural fluid, or other normally sterile fluids; and
- Reciprocal immunofluorescence antibody (IFA) titer > 128 between paired acute- and convalescent-phased serum specimens.

What are the implications of relying on the urine antigen test?

- Use of the urine antigen test for the diagnosis of LD caused by *L. pneumonphila* serogroup 1 (LP1, accounts for >90% of LD) is highly sensitive and specific and it allows for rapid diagnosis of LD. Rapidity of diagnosis is an important advantage of the urine antigen test, because it means that cases can be detected early in the course of infection, when treatment decisions can be affected, unlike diagnosis of LD by other modalities. The use of the urine antigen test also effectively allows the identification of outbreaks of LD due to LP1 in hospitals and the community.

- The urine antigen test can be used to effectively diagnose infections with LP1, however, it is neither licensed nor sensitive for diagnosis of infection caused by other species of *Legionella* or other *L. pneumophila* serogroups. The use of urine antigen has resulted in the preferential diagnosis of LP1 infections, which impairs our ability to detect non-LP1 cases.

- Public health investigations of outbreaks of LD rely on having both clinical and environmental *Legionella* isolates. Clinical isolates are necessary to interpret the findings of environmental investigations,

particularly because *legionellae* are commonly found in the environment and multiple strains can be identified (including several strains of LP1) during an environmental investigation of an outbreak.

There has been a 66% decrease in mortality for nosocomial and community-acquired Legionellosis combined since 1980. What accounts for the decrease in mortality among patients with LD?

- Because the urine antigen test is more sensitive than culture, serologic testing or DFA testing, it is possible that its use has led to the detection of disease in patients with milder forms of Legionellosis, for whom case-fatality rates are lower.

- Changes in empiric antibiotic treatment of patients hospitalized with pneumonia may have contributed to decreased mortality also. The American Thoracic Society in 1993 and the Infectious Diseases Society of America in 1998 published recommendations for empiric therapy for pneumonia. These guidelines included the use of fluoroquinolones and marcolides, antimicrobial agents that are effective for the treatment of LD.

- However, these data must be interpreted with caution, because surveillance techniques for LD are insensitive and it's estimated that only 2.5%-4.5% of cases are reported nationally. Reasons for underreporting could include poor recognition by clinicians of LD as a cause of pneumonia, lack of a routine diagnostic testing, lack of awareness of utility of urine antigen test, and a lack of reporting to public health departments. However, data can reveal trends that have important public health implications.

What diagnostic test should be used for suspected cases of LD?

- For patients for whom LD is a possible diagnosis and for all patients with nosocomial pneumonia, urine antigen testing and culture of appropriate respiratory secretions should be performed. Performing both tests allows for rapid diagnosis of LP1 infections, later diagnosis of infection with other *legionellae*, and availability of isolates.

- Given that empiric use of fluoroquinolones and extended-spectrum macrolides is successful in treating patients with undiagnosed LD, cost considerations may limit the use of urine antigen and culture to diagnose LD. Consideration must be given to the public health implication of not diagnosing LD, including the continued presence of a disease-transmission source in the hospital or community.

- If hospital laboratories are unable to perform culture isolation of Legionella species, the Maine Health and Environmental Testing Laboratory can perform this test to identify Legionella species; prior notification is requested.

- Report cases of LD within 48 hours of recognition or strong suspicion by calling 1-800-821-5821.

There has been a remarkable reduction in LD mortality since 1990 in the US. To continue to reduce mortality, our efforts must be directed at disease prevention. Prevention relies on the identification of sources of transmission and thus requires a diagnostic approach to pneumonia that includes both urine antigen testing and culture for *legionellae*.

Prepared by Anne Redmond Sites

Reducing the Spread of HIV, HCV, and HBV: Safer Injection Policies in Maine

Injection drug use continues to be a major source of transmission of bloodborne pathogens in the State of Maine and nationally. According to the US Centers for Disease Control and Prevention (CDC), in 2004, approximately one-fifth of all HIV infections and most new hepatitis C infections in the U.S. were attributable to injection drug use. In 2004, the Maine Center for Disease Control and Prevention (Maine CDC) found 15% of those persons newly diagnosed with HIV had a history of injection drug use. During the same time, 92% of all

persons testing positive for hepatitis C infection through the state-sponsored program reported having a history of injection drug use. Injection drug use is also a major risk factor for hepatitis B transmission. Between 1990 and 2000, 14% of all hepatitis B cases reported to the CDC had a history of injection drug use. Maine CDC data on hepatitis B infection are less complete than national data and are unavailable at this time.

Because not all persons injecting drugs are ready to, or interested in stopping their injecting behavior, leading public health experts recommend encouraging active injection drug users (IDU) to take a “harm reduction” approach. According to the Harm Reduction Coalition, “ Harm reduction is a set of practical strategies that reduce negative consequences of drug use, incorporating a spectrum of strategies from safer use, to managed use, to abstinence. Harm reduction strategies meet drug users "where they're at," addressing conditions of use along with the use itself” (http://www.harmreduction.org/).

Harm reduction strategies for safer use include nonprescription sale of hypodermic needles and syringe exchange programs. Syringe exchange programs (SEP) offer services that allow active IDU to safely dispose of used syringes, and to obtain sterile syringes at no cost based on a one-for-one exchange. While syringe exchange does not completely eliminate the risk of HIV, hepatitis B or C transmission, use of a non-shared, sterile syringe does help to reduce this risk.

In the 1990s, the Maine CDC, law enforcement and public health partners worked together to enact legislation that allowed for the creation of syringe exchange programs in the State and legalized possession of up to 10 hypodermic syringes for persons aged 18 years and older. Currently, Maine has four state-certified syringe exchange programs. Each site provides comprehensive services essential to helping IDU reduce their risks for acquiring and transmitting blood-borne viruses, as well as services to help improve their overall health. These services may include: testing for HIV, hepatitis C, TB, and other sexually transmitted diseases; vaccinations for hepatitis A and B; harm reduction counseling; primary medical services; and referrals to substance abuse, mental health and other social services.

The medical community has a crucial role in helping to reduce the IDU-associated spread of bloodborne pathogens in their patient populations. Specific activities include the following:

- Ask all patients about injection drug use to determine if they are engaged in this behavior or have a past history of engaging in this behavior;
- Screen all patients who are actively injecting drugs and those with a history of injection drug use for bloodborne pathogens;
- Vaccinate all susceptible active users against hepatitis B virus. (Vaccination against hepatitis A is also indicated, though not a risk for bloodborne transmission).
- Educate patients who are actively injecting drugs about the importance of ceasing needle sharing behaviors, and about the health risks associated with drug use and needle-sharing;
- Inform patients who are actively injecting about syringe exchange programs, and the non prescription sale of syringes in the State of Maine, and refer them to the State-certified SEPs;
- Inform patients who are actively injecting about the law that allows for the sale and possession of syringes by people 18 years and older.

Current state-certified needle exchange programs are listed below:

Portland Public Health 103 India Street Portland, ME 04101 756.8024	**Eastern Maine AIDS Network** 370 Harlow St. In- Town Plaza Bangor ME, 04401 990.3626 And additional outreach locations as needed in Bangor

Dayspring AIDS Support Services 9 Green St. Augusta, ME 04333 621.6201	**Down East AIDS Network** 25A Pine St. Ellsworth, ME04605 667.3506 5A Water St. Machias, ME 04654
	Down East AIDS Network 5 Lowell St. Suite #5 255.5849 Calais, ME 04619

For more information or resources on injection drug use, see: www.cdc.gov/idu.

Contributed by Jennah Godo and Mary Kate Appicelli

Clinical Guidance for Screening and Initial Management of Suspected Human Cases of Avian Influenza (H5N1) - Maine, November 30, 2005

Since 2004 avian influenza A (H5N1) infections have been reported in poultry and humans in many Asian and Eastern European countries. Identifying possible imported cases of avian influenza A (H5N1) in the clinical setting depends upon health-care providers consistently obtaining information on recent international travel and other potential exposures from persons who have certain respiratory symptoms.

The Maine Center for Disease Control and Prevention (Maine CDC) recommends the following surveillance, testing, and initial patient management procedures for human cases of avian influenza A (H5N1). They are based on national guidance from the federal Centers for Disease Control and Prevention and the national Pandemic Influenza Plan (www.hhs.gov/pandemicflu/plan.). Information will be updated as necessary.

Maine CDC's avian influenza web page (http://www.maine.gov/dhhs/boh/influenza_surveillance_avian-info.htm) provides additional information, including an algorithm for case detection and clinical management of suspect or confirmed human cases of novel influenza virus.

Testing for avian influenza A (H5N1) is indicated for hospitalized patients with:

- Radiographically confirmed pneumonia, acute respiratory distress syndrome (ARDS), or other severe respiratory illness for which an alternate diagnosis has not been established; **AND**
- History of travel within 10 days of symptom onset to a country with documented H5N1 avian influenza in poultry and/or humans.

Testing for avian influenza A (H5N1) should be considered on a case-by-case basis (consult with Maine CDC) for hospitalized or ambulatory patients with:

- Documented temperature of >38°C (>100.4°F) with one or more of the following: cough, sore throat, shortness of breath; **AND**

- History of contact with poultry (e.g., visited a poultry farm, a household raising poultry, or a bird market) or a known or suspected human case of influenza A (H5N1) in an H5N1-affected country within 10 days of symptom onset.

Regularly updated listings of H5N1-affected countries are available at the World Organization for Animal Health (OIE) website (www.oie.int/eng/en_index.htm), the World Health Organization website (www.who.int/en), and CDC avian influenza outbreak website (www.cdc.gov/flu/avian/outbreaks/). Maine CDC can also provide consultation by calling 1-800-821-5821.

When the above criteria for hospitalized or ambulatory patients are met:

- Implement infection control precautions: Patients should be placed on Droplet Precautions for a minimum of 14 days, unless there is a full resolution of illness or another etiology has been identified before that period has elapsed. Healthcare personnel should wear surgical and procedure masks on entering a patient's room, as per Droplet Precautions, as well as gloves and gowns, when indicated for Standard Precautions. Patients should be admitted to a single-patient room, and patient movement and transport within the hospital should be limited to medically necessary purposes.

- Notify Maine CDC: Call the Disease Reporting and Consultation line at 1-800-851-5821 (24 hours a day) immediately. Maine CDC will facilitate lab testing and initiation of public health measures.

- Obtain clinical specimens for testing by the Maine Health and Environmental Testing Laboratory (HETL): If feasible, all of the following respiratory specimens should be collected for novel influenza A virus testing: nasopharyngeal swab; nasal swab, wash or aspirate; throat swab; and tracheal aspirate (for intubated patients). Store specimens at 4°C in viral transport media until transported or shipped for testing. Acute (within 7 days of illness onset) and convalescent serum specimens (2-3 weeks after the acute specimen and at least 3 weeks after illness onset) should be obtained and refrigerated at 4°C or frozen at minus 20-80°C.

Contributed by Anne Redmond Sites

New Recommendations for Antimicrobial Agents for Treatment and Postexposure Prophylaxis of Pertussis

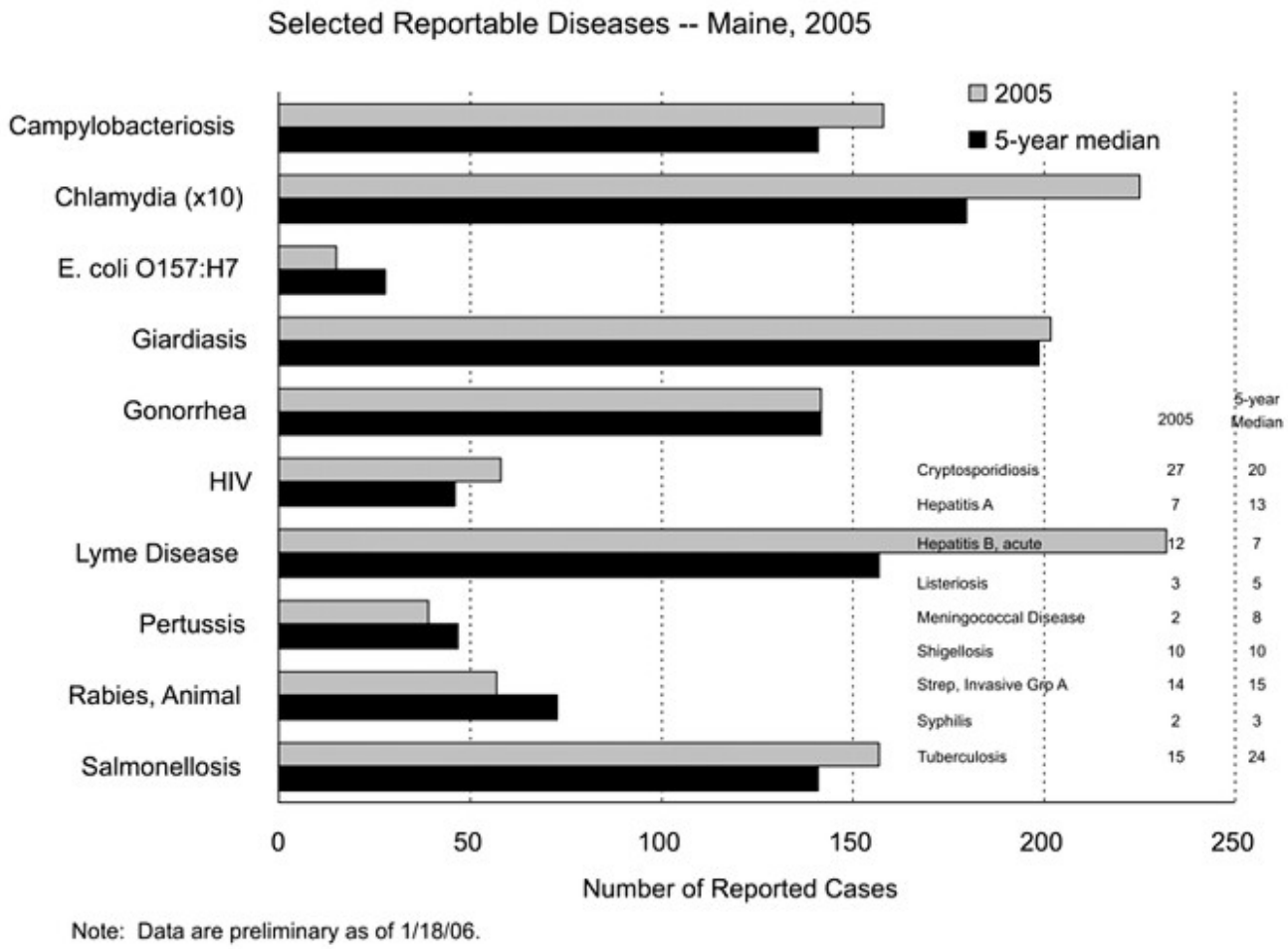
Pertussis is the second most commonly reported vaccine preventable disease in Maine; a total of 39 cases were reported in the state during 2005. On December 9, 2005 CDC released updated recommendations for treatment and postexposure prophylaxis of pertussis (MMWR, RR-14, available at: http://www.cdc.gov/mmwr/mmwr_rr.html). The recommendations define who should be considered a close contact for purposes of postexposure prophylaxis. The four options for treatment and postexposure prophylaxis (azithromycin, clarithromycin, erythromycin, and trimethoprim-sulfamethoxazole) are discussed including the recommended dosages and contraindications by age group for each drug. In practice, azithromycin tends to be the most popular choice because its dosing schedule (once per day for 5 days) is simple, it can be given to all age groups, and it is usually well tolerated.

Pertussis is a notifiable disease in Maine. Reports can be made by calling 1-800-821-5821. Epidemiologists are available 24 hours a day at the same number to provide assistance as needed.

Two new tetanus, diphtheria, and acellular pertussis vaccines formulated for adolescents and adults were licensed in 2005 (BOOSTERIX by GlaxoSmithKline for adolescents aged 11-18 years and ADACEL by Sanofi Pasteur for adults aged 19-64 years). Additional information about these vaccines and how the new recommendations will be implemented in Maine will appear in a future issue of the EpiGram.

Contributed by Andy Pelletier and Alexander Dragatsi

Reportable Disease Graph for December 2005



Note: Data are preliminary as of 1/18/06.

Contributed by Andrew Pelletier

Foodborne Disease Trends in Maine: Toward Healthy Maine 2010

The burden of foodborne infections is well documented. The CDC estimates that foodborne pathogens are responsible for 76 million illnesses, 325,000 hospitalizations and 5,000 deaths per year in the United States. In

Maine, foodborne disease account for a significant proportion of all confirmed diseases reported to and investigated by the Maine CDC

In 2002, the Maine CDC set an objective as part of its broader goals for **Healthy Maine 2010**, to "reduce infections caused by key foodborne pathogens" using 1999 as the baseline (see table 1). The key pathogens, largely chosen for their virulence and/or frequency, included *Salmonella, Escherichia coli 0157:H7, campylobacter,* and *Listeria.* No report card has since been produced to determine whether or not Maine is on course to meeting its target. An analysis**(1)** was performed to examine disease-specific incidence rates between 1999 and 2004. In addition, trends in Maine were compared to regional and national trends for 1999 through 2003.

In 1999, the annual incidence rates for *Campylobacter, Salmonella, E. coli 0157,* and *Listeria* in Maine were 12.6/100,000, 10.4/100,000, 3.1/100,000, and 0.7/100,000 respectively. Between 1999 and 2004, incidence rates for all four pathogens indicated some level of decrease. *E. coli 0157:H7* showed the largest decrease, from 3.1/100,000 to 1.3/100,000, representing a 58% decline **(see Figure 1)**. Over the same period, the rate of *Salmonella* decreased by 17%. *Listeria* and *Campylobacter* declined by 14% and 12%, respectively. Generally, there was a downward trend in the annual incidence rates for *E. coli 0157:H7, Salmonella* and *Campylobacter* while *Listeria* rates remained essentially unchanged.

In the New England **(2)** as well as in the United States, there were similar downward trends in *E. coli 0157:H7* rates between 1999 and 2003, with decreases of 59% and 44% at the regional and national levels, respectively. For *Salmonella*, there was a modest decline of only 5% in New England against a rise of nearly 8% at the national level over the same period. The incidence of *Listeria* remained stable in New England, but decreased by 33% at the national level between 2000 and 2003. No regional and national comparisons were made for *Campylobacter* because it is not a nationally notifiable disease and therefore data were not available. Nonetheless, studies based on data from FoodNet suggest that *Campylobacter* rates might be on a sustained decline in the United States.

The results indicate that Maine is making some progress toward meeting its objective of reducing the rate of foodborne infections by 2010. The case rates for *E. coli 0157:H7, Salmonella,* and *Campylobacter* showed great to modest decline between 1999 and 2004, although only *E. coli 0157:H7* registered a statistically significant decrease. *E. coli 0157:H7* has already surpassed the 2010 target. Objectives for *Salmonella, Campylobacter* and *Listeria* will not be met at the current rate of decline in disease incidence. All the same, the trends observed in Maine were generally consistent with regional and national data.

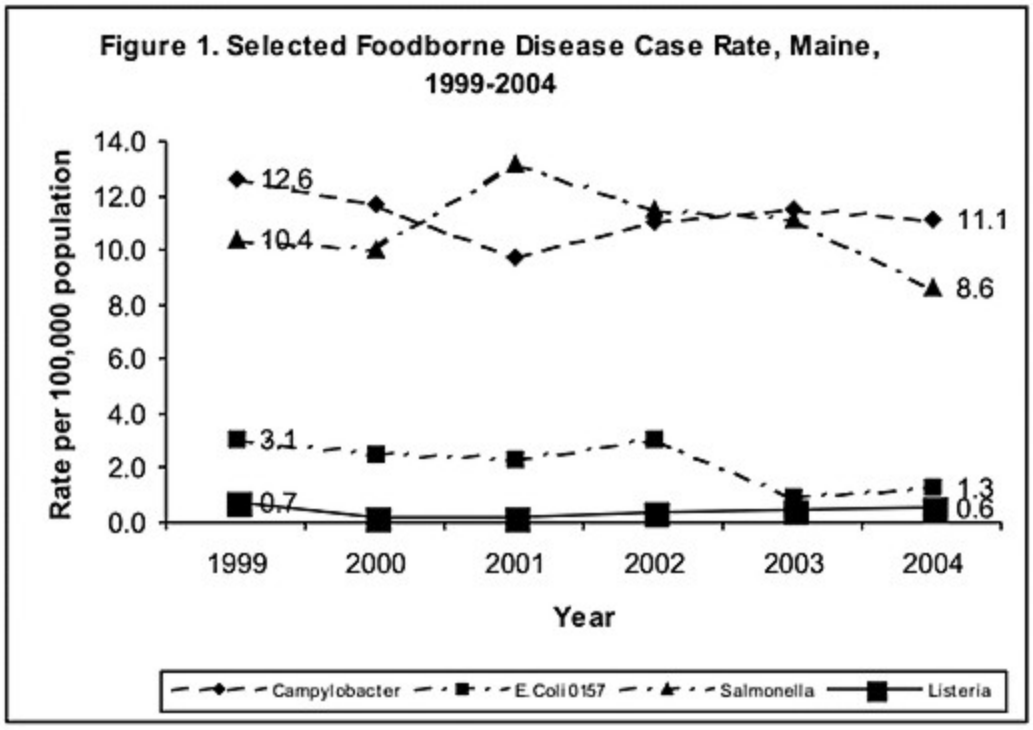
The observed declines might be simply attributable to annual fluctuations and aberrations in foodborne illnesses. However, they may also have occurred in the context of increased disease prevention intervention measures. At the federal level, implementation by the USDA and the FDA of the Pathogen Reduction/Hazard Analysis and Critical Control Point (HACCP) regulations in the meat, poultry, seafood and juice industries is thought to have contributed to the decline in foodborne diseases nationwide. Other control measures introduced by the FDA include increased attention to fresh produce safety through better agricultural practices, regulations requiring refrigeration and safety-labeling of shell eggs, food safety education, and addition of new technologies to reduce food contamination. Interventions at the state and local levels may also have played a role in the observed declines: For example, since the establishment of the Regional Epidemiology Program in 2002, all confirmed reports of most reportable foodborne diseases including, *E. coli, Salmonella,* and *Listeria* are investigated. In addition to establishing the potential source of infection, the investigator also provides relevant education on foodborne pathogens to individual cases as well as providers. Each of these interventions may have affected the incidence of foodborne illnesses during the last five years.

The progress made thus far is encouraging. However, the fact that the data do not support sustained declining rates for *Salmonella*, *Listeria* and *Campylobacter* indicate that more efforts are required to further reduce the incidence of foodborne diseases in Maine.

Table 1: Rate and percent change of selected foodborne diseases, Maine, 1999-2004

	Rate per 100,000			% change
Foodborne Diseases	**1999***	**2004**	**2010 Target**	**1999-2004**
Campylobacter	12.6	11.1	8.5	-12
E coli 0157:H7	3.1	1.3	1.5	-58
Salmonella	10.4	8.6	6.3	-17
Listeria	0.7	0.6	0.2	-14

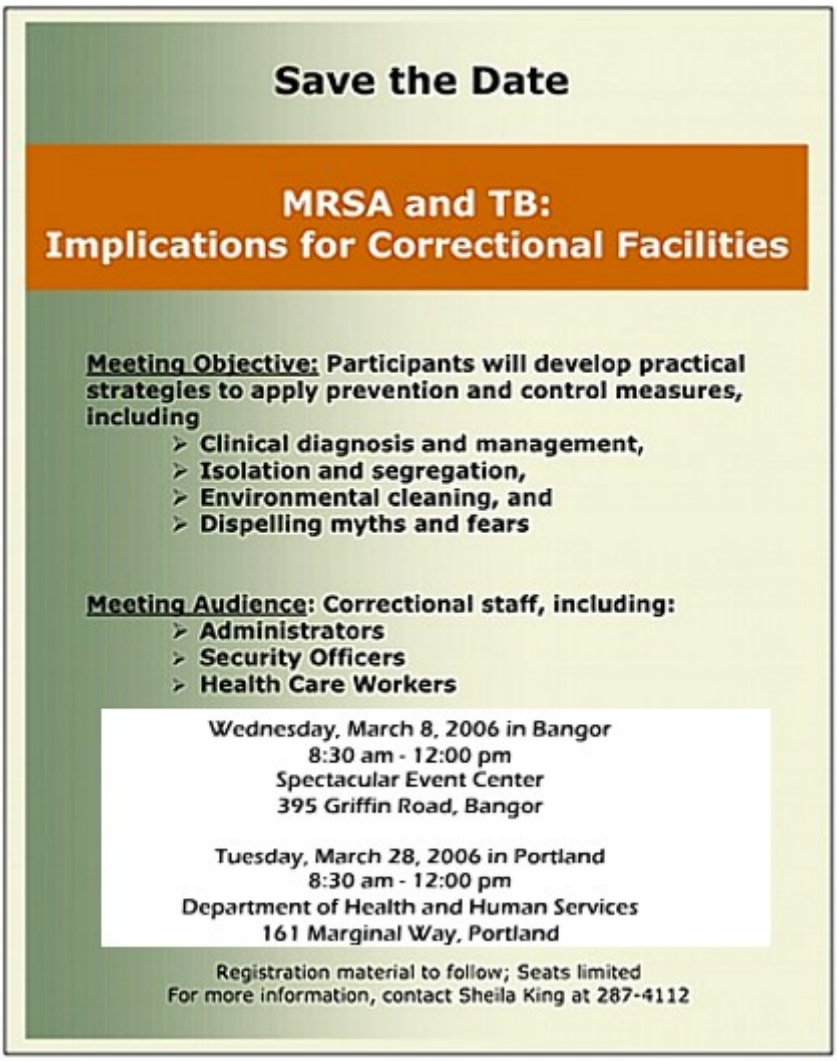
*Rates presented here differ in some cases from rates shown in **Healthy Maine 2010** due to subsequent reconciliation and revisions.



(i) Maine-specific data were extracted from NETSS, a disease-reporting database. Regional and national data were obtained from **Morbidity and Mortality Weekly Report**, Summary of Notifiable Diseases. Population denominators are from the 2000 census data.

Contributed by Anthony Yartel

Save the Date: MRSA and TB: Implications for Correctional Facilities



Please call Maine CDC to report all reportable diseases:

Telephone Disease Reporting Line:
24 hours / 7 days
1 800 821-5821

Consultation and Inquiries:
24 hours / 7 days
1 800 821-5821

Facsimile Disease Reporting Line:
24 hours / 7 days
1 800 293-7534

Maine Department of Health and Human Services
Maine Center for Disease Control and Prevention
(Formerly Bureau of Health)
286 Water Street
11 State House Station
Augusta, ME 04333-0011